

SEQUENCE LISTING

<110> Anthony P. Heaney
Gregory A. Horwitz
Xun Zhang
Shlomo Melmed

<120> Methods of Using Pituitary Tumor
Transforming Gene (PTTG) Carboxy-terminal Peptides to
Inhibit Neoplastic Cellular Proliferation And/Or
Transformation of Breast and Ovarian Cells

<130> CEDAR-45257

<140> NOT ASSIGNED

<141> 2000-12-04

<150> US CIP 09/687,911

<151> 2000-10-13

<150> US CIP 09/569,956

<151> 2000-05-12

<150> US 08/894,251

<151> 1999-07-23

<150> PCT/US97/21463

<151> 1997-11-21

<150> US 60/031,338

<151> 1996-11-21

<160> 19

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 974

<212> DNA

<213> Rattus rattus

<400> 1

```
aattcggcac gagccaacct tgagcatctg atcctcttgg cttctccttc ctatcgctga 60
gctggtaggc tggagacagt tgtttgggtg ccaacatcaa caaacgattt ctgtagttaa 120
gcgtttatga ccctggcgtg aagatttaag gtctggatta agcctgttga cttctccagc 180
tacttctaaa tttttgtgca taggtgctct ggtctctgtt gctgcttagt tcttccagcc 240
ttcctcaatg ccagttttat aatatgcagg tctctcccct cagtaatcca ggatggctac 300
tctgatcttt gttgataagg ataacgaaga gccaggcagc cgtttggcat ctaaggatgg 360
attgaagctg ggctctgggt tcaaagcctt agatgggaaa ttgcagggtt caacgccacg 420
agtcggcaaa gtgttcggtg ccccgaggct gcctaaagcc agcaggaagg ctctgggaac 480
tgtcaacaga gttactgaaa agccagtga gagtagtaaa cccctgcaat cgaaacagcc 540
gactctgagt gtgaaaaaga tcaccgagaa gtctactaag acacaaggct ctgctcctgc 600
tcctgatgat gcctaccag aaatagaaaa gttcttcccc ttcgatcctc tagattttga 660
```

09730469 120400

```

gagttttgac ctgcctgaag agcaccagat ctcacttctc cccttgaatg gagtgcctct 720
catgatcctg aatgaagaga gggggcttga gaagctgctg cacctggacc ccccttcccc 780
tctgcagaag ccttccttac cgtgggaatc tgatccgttg ccgtctcctc ccagcgcctt 840
ctccgctctg gatgttgaat tgccgcctgt ttgttacgat gcagatatatt aaacgtctta 900
ctcctttata gtttatgtaa gttgtattaa taaagcattt gtgtgtaaaa aaaaaaaaaa 960
aaactcgaga gtac 974

```

```

<210> 2
<211> 199
<212> PRT
<213> Rattus rattus

```

```

<400> 2
Met Ala Thr Leu Ile Phe Val Asp Lys Asp Asn Glu Glu Pro Gly Ser
1 5 10 15
Arg Leu Ala Ser Lys Asp Gly Leu Lys Leu Gly Ser Gly Val Lys Ala
20 25 30
Leu Asp Gly Lys Leu Gln Val Ser Thr Pro Arg Val Gly Lys Val Phe
35 40 45
Gly Ala Pro Gly Leu Pro Lys Ala Ser Arg Lys Ala Leu Gly Thr Val
50 55 60
Asn Arg Val Thr Glu Lys Pro Val Lys Ser Ser Lys Pro Leu Gln Ser
65 70 75 80
Lys Gln Pro Thr Leu Ser Val Lys Lys Ile Thr Glu Lys Ser Thr Lys
85 90 95
Thr Gln Gly Ser Ala Pro Ala Pro Asp Asp Ala Tyr Pro Glu Ile Glu
100 105 110
Lys Phe Phe Pro Phe Asp Pro Leu Asp Phe Glu Ser Phe Asp Leu Pro
115 120 125
Glu Glu His Gln Ile Ser Leu Leu Pro Leu Asn Gly Val Pro Leu Met
130 135 140
Ile Leu Asn Glu Glu Arg Gly Leu Glu Lys Leu Leu His Leu Asp Pro
145 150 155 160
Pro Ser Pro Leu Gln Lys Pro Phe Leu Pro Trp Glu Ser Asp Pro Leu
165 170 175
Pro Ser Pro Pro Ser Ala Leu Ser Ala Leu Asp Val Glu Leu Pro Pro
180 185 190
Val Cys Tyr Asp Ala Asp Ile
195

```

```

<210> 3
<211> 779
<212> DNA
<213> Homo sapiens

```

```

<400> 3
atggccgcga gttgtggttt aaaccaggag tgccgcgcgt ccgttcaccg cggcctcaga 60
tgaatgcggc tgtaagacc tgcaataatc cagaatggct actctgatct atgttgataa 120
ggaaaatgga gaaccaggca cccgtgtggt tgctaaggat gggctgaagc tggggctctgg 180
accttcaatc aaagccttag atgggagatc tcaagtttca acaccacgtt ttggcaaaac 240
gttcgatgcc ccaccagcct tacctaaagc tactagaaag gctttgggaa ctgtcaacag 300
agctacagaa aagtctgtaa agaccaaggg acccctcaaa caaaaacagc caagcttttc 360
tgccaaaaag atgactgaga agactgttaa agcaaaaagc tctgttcctg cctcagatga 420
tgccatcca gaaatagaaa aattctttcc cttcaatcct ctagactttg agagttttga 480

```

```

cctgcctgaa gagcaccaga ttgcgcacct ccccttgagt ggagtgcctc tcatgaccc 540
tgacgaggag agagagcttg aaaagctggt tcagctgggc ccccttcac ctgtgaagat 600
gccctctcca ccatgggaat ccaatctggt gcagtctcct tcaagcattc tgtcgaccct 660
ggatgttgaa ttgccacctg tttgctgtga catagatatt taaatttctt agtgcttcag 720
agtttgtgtg tatttgtatt aataaagcat tctttaacag ataaaaaaaa aaaaaaaaaa 779

```

```

<210> 4
<211> 202
<212> PRT
<213> Homo sapiens

```

```

<400> 4
Met Ala Thr Leu Ile Tyr Val Asp Lys Glu Asn Gly Glu Pro Gly Thr
1          5          10          15
Arg Val Val Ala Lys Asp Gly Leu Lys Leu Gly Ser Gly Pro Ser Ile
20          25          30
Lys Ala Leu Asp Gly Arg Ser Gln Val Ser Thr Pro Arg Phe Gly Lys
35          40          45
Thr Phe Asp Ala Pro Pro Ala Leu Pro Lys Ala Thr Arg Lys Ala Leu
50          55          60
Gly Thr Val Asn Arg Ala Thr Glu Lys Ser Val Lys Thr Lys Gly Pro
65          70          75          80
Leu Lys Gln Lys Gln Pro Ser Phe Ser Ala Lys Lys Met Thr Glu Lys
85          90          95
Thr Val Lys Ala Lys Ser Ser Val Pro Ala Ser Asp Asp Ala Tyr Pro
100          105          110
Glu Ile Glu Lys Phe Phe Pro Phe Asn Pro Leu Asp Phe Glu Ser Phe
115          120          125
Asp Leu Pro Glu Glu His Gln Ile Ala His Leu Pro Leu Ser Gly Val
130          135          140
Pro Leu Met Ile Leu Asp Glu Glu Arg Glu Leu Glu Lys Leu Phe Gln
145          150          155          160
Leu Gly Pro Pro Ser Pro Val Lys Met Pro Ser Pro Pro Trp Glu Ser
165          170          175
Asn Leu Leu Gln Ser Pro Ser Ser Ile Leu Ser Thr Leu Asp Val Glu
180          185          190
Leu Pro Pro Val Cys Cys Asp Ile Asp Ile
195          200

```

```

<210> 5
<211> 31
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Synthetic oligonucleotide.

```

```

<400> 5
gatgctctcc gcactctggg aatccaatct g

```

31

```

<210> 6
<211> 32
<212> DNA
<213> Artificial Sequence

```

<220>
<223> Synthetic oligonucleotide.

<400> 6
ttcacaagtt gaggggagcc cagctgaaac ag 32

<210> 7
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Synthetic oligonucleotide specific to pCI-neo
plasmid vector.

<400> 7
ggctagagta cttaatacga ctactatag gc 32

<210> 8
<211> 31
<212> DNA
<213> Homo sapiens

<400> 8
ctatgtcaca gcaaacaggt ggcaattcaa c 31

<210> 9
<211> 56
<212> PRT
<213> Homo sapiens

<400> 9
Met Ile Leu Asp Glu Glu Arg Glu Leu Glu Lys Leu Phe Gln Leu Gly
1 5 10 15
Pro Pro Ser Pro Val Lys Met Pro Ser Pro Pro Trp Glu Ser Asn Leu
20 25 30
Leu Gln Ser Pro Ser Ser Ile Leu Ser Thr Leu Asp Val Glu Leu Pro
35 40 45
Pro Val Cys Cys Asp Ile Asp Ile
50 55

<210> 10
<211> 168
<212> DNA
<213> Homo sapiens

<400> 10
atgaccccttg acgaggagag agagcttgaa aagctgtttc agctgggccc cccttcacct 60
gtgaagatgc cctctccacc atgggaatcc aatctgttgc agtctccttc aagcattctg 120
tcgaccctgg atgttgaatt gccacctggt tgctgtgaca tagatatt 168

<210> 11
<211> 16

<212> DNA
<213> Artificial Sequence

<220>
<223> Anchored primer sequence.

<400> 11
aagctttttt tttttg

16

<210> 12
<211> 13
<212> DNA
<213> Artificial Sequence

<220>
<223> Arbitrary primer sequence.

<400> 12
aagcttgctg ctc

13

<210> 13
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> n = a, g, or c; Anchored primer sequence.

<400> 13
aagctttttt tttttt

16

<210> 14
<211> 194
<212> PRT
<213> Mus musculus

<400> 14
Met Ala Thr Leu Ile Phe Val Asp Lys Asp Asn Glu Glu Pro Gly Arg
1 5 10 15
Arg Leu Ala Ser Lys Asp Gly Leu Lys Leu Gly Thr Gly Val Lys Ala
20 25 30
Leu Asp Gly Lys Leu Gln Val Ser Thr Pro Arg Val Gly Lys Val Phe
35 40 45
Asn Ala Pro Ala Val Pro Lys Ala Ser Arg Lys Ala Leu Gly Thr Val
50 55 60
Asn Arg Val Ala Glu Lys Pro Met Lys Thr Gly Lys Pro Leu Gln Pro
65 70 75 80
Lys Gln Pro Thr Leu Thr Gly Lys Lys Ile Thr Glu Lys Ser Thr Lys
85 90 95
Thr Gln Ser Ser Val Pro Ala Pro Asp Asp Ala Tyr Pro Glu Ile Glu
100 105 110
Lys Phe Phe Pro Phe Asn Pro Leu Asp Phe Asp Leu Pro Glu Glu His
115 120 125
Gln Ile Ser Leu Leu Pro Leu Asn Gly Val Pro Leu Ile Thr Leu Asn
130 135 140

Glu Glu Arg Gly Leu Glu Lys Leu Leu His Leu Gly Pro Pro Ser Pro
 145 150 155 160
 Leu Lys Thr Pro Phe Leu Ser Trp Glu Ser Asp Pro Lys Pro Pro Ser
 165 170 175
 Ala Leu Ser Thr Leu Asp Val Glu Leu Pro Pro Val Cys Tyr Asp Ala
 180 185 190
 Asp Ile

<210> 15
 <211> 945
 <212> DNA
 <213> Mus musculus

<400> 15
 tcttgaactt gttatgtagc aggaggccaa atttgagcat cctcttggct tctctttata 60
 gcagagattg taggctggag acagttttga tgggtgccaa cataaactga tttctgtaag 120
 agttgagtggt tttatgaccc tggcgtgcag atttaggac tggattaagc ctgttgactt 180
 ctccagctac ttataaattt ttgtgcatag gtgccctggg taaagcttgg tctctgttac 240
 tgcgtagttt ttccagccgt ctcaatgcc aatattcaggc tctctccctt agagtaatcc 300
 agaatggcta ctcttatctt tgttgataag gataatgaag aacccggccg ccgtttggca 360
 tctaaggatg ggttgaagct gggcactggt gtcaaggcct tagatgggaa attgcaggtt 420
 tcaacgcctc gagtcggcaa agtgttcaat gctccagccg tgcctaaagc cagcagaaag 480
 gctttgggga cagtcaacag agttgccgaa aagcctatga agactggcaa acccctccaa 540
 ccaaaaacagc cgaccttgac tgggaaaaaag atcaccgaga agtctactaa gacacaaagc 600
 tctgttcctg ctccctgatga tgcctaccca gaaatagaaa agttcttccc tttcaatcct 660
 ctagattttg acctgcctga ggagcaccag atctcacttc tccccttgaa tggcgtgcct 720
 ctcatacccc tgaatgaaga gagagggctg gagaagctgc tgcactctggg cccccctagc 780
 cctctgaaga caccctttct atcatgggaa tctgatccgc tgtactctcc tcccagtgcc 840
 ctctccactc tggatgttga attgccgcct gtttgttacg atgcagatat ttaaacttct 900
 tacttctttg tagtttctgt atgtatgttg tattaataaa gcatt 945

<210> 16
 <211> 56
 <212> PRT
 <213> Rattus rattus

<400> 16
 Met Ile Leu Asn Glu Glu Arg Gly Leu Glu Lys Leu Leu His Leu Asp
 1 5 10 15
 Pro Pro Ser Pro Leu Gln Lys Pro Phe Leu Pro Trp Glu Ser Asp Pro
 20 25 30
 Leu Pro Ser Pro Pro Ser Ala Leu Ser Ala Leu Asp Val Glu Leu Pro
 35 40 45
 Pro Val Cys Tyr Asp Ala Asp Ile
 50 55

<210> 17
 <211> 56
 <212> PRT
 <213> Mus musculus

<400> 17

004021 " 59469 " 120400

Ile Thr Leu Asn Glu Gly Leu Glu Lys Leu Leu His Leu Gly
 1 5 10 15
 Pro Pro Ser Pro Leu Lys Thr Pro Phe Leu Ser Trp Glu Ser Asp Pro
 20 25 30
 Leu Tyr Ser Pro Pro Ser Ala Leu Ser Thr Leu Asp Val Glu Leu Pro
 35 40 45
 Pro Val Cys Tyr Asp Ala Asp Ile
 50 55

<210> 18
 <211> 168
 <212> DNA
 <213> Rattus rattus

<400> 18
 atgacccctga atgaagagag ggggcttgag aagctgctgc acctggaccc cccttcccct 60
 ctgcagaagc ccttcctacc gtgggaatct gatccgttgc cgtctcctcc cagcgccctc 120
 tccgctctgg atgttgaatt gccgcctggt tgttacgatg cagatatt 168

<210> 19
 <211> 168
 <212> DNA
 <213> Mus musculus

<400> 19
 atcaccctga atgaagagag agggctggag aagctgctgc atctgggccc ccctagccct 60
 ctgaagacac cctttctatc atgggaatct gatccgttgc actctcctcc cagtgcctc 120
 tccactctgg atgttgaatt gccgcctggt tgttacgatg cagatatt 168

09730469.120400